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Author

St John, Winsome, Griffiths, Susan, Wallis, Marianne, McKenzie, Shona

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Women's Management of Urinary Incontinence in Daily Living

Winsome St John,¹ Susan Griffiths,¹ Marianne Wallis,^{2,3} Shona McKenzie⁴

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Contact details:

Associate Professor Winsome St John RN, PhD
Population and Social Health Research Program, Griffith Health Institute
School of Nursing and Midwifery
GRIFFITH UNIVERSITY Queensland Australia 4222
Telephone: +61 7 5552 8935
Fax: +61 7 5552 8526
Email: w.stjohn@griffith.edu.au

Ms Susan Griffiths BA
Professor Marianne Wallis RN, PhD
Ms Shona McKenzie RN, MAP(Hons), CNA, Nurse Practitioner

1. Population and Social Health Research Program, Griffith Health Institute, Griffith University, Australia
2. Research Centre for Clinical and Community Practice Innovation, Griffith Health Institute, Griffith University, Australia
3. Gold Coast Health Service District, Queensland, Australia
4. Royal Brisbane Hospital Services District, Queensland, Australia

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Abstract

Purpose: We investigated the strategies used by older and working-aged women to manage urinary incontinence (UI) in their daily lives.

Design: Cross sectional, descriptive study.

Subjects and Setting: The sample was comprised of 103 older (> 65 years; mean =74.6) and 104 working-aged (18-65 years; mean = 50.3) community-dwelling Australian women with self-reported UI. They had experienced UI for an average of five years and a majority rated their UI severity as moderate to severe.

Instrument: Based on a comprehensive literature review, a 93-item author-developed questionnaire was developed and pilot tested to identify the type and frequency of strategies used by participants to manage UI. Questions also addressed demographic and urinary symptom characteristics (type, severity, duration).

Methods: Participants were recruited via public and privately-funded continence clinics and an advertisement in a local paper, with a 66% retention rate following recruitment. Questionnaires were posted to participants with a reply paid envelope for return.

Results: The women used a range of strategies to manage UI in their daily lives, with a large proportion of women from both groups choosing to: go to the toilet immediately after urge (older 94%; working-aged - 92%); make managing leaking a normal part of everyday life (older 81%; working-aged 78%); stop activities that make them leak (older 85%; working-aged 83%), and use pads and aids (older 87%; working-aged 73%). Older women were more likely to use most of the strategies and this was statistically significant in 19 of the 61 strategy items, including: stop drinking in the evening (older 64%; working-aged 43%, $p = 0.003$); organise their bedroom close to the toilet (older 61%; working-aged 36%, $p = 0.001$); limit travel (older 45%; working-aged 18%, $p < 0.001$); socialising (older 30%; working-aged 11%, $p = 0.001$) and new relationships (older 25%; working-aged 11%, $p = 0.01$); and engage in a wide range of hygiene measures such as washing (older 86%; working-aged 60%, $p < 0.001$), changing pads frequently (older 76%; working-aged 58%, $p = 0.008$), and using deodorisers (older 68%; working-aged 50%, $p < 0.008$). Working-aged women were more likely to modify (older 17%; working-aged 70%, $p < 0.001$) or avoid (older 8%; working-aged 32%, $p = 0.001$) sexual activity.

Conclusion: Both groups of women aimed to normalize urinary incontinence in their daily lives using strategies aimed at keeping the bladder empty, maintaining secrecy and preserving social continence. In addition to using pads and aids, they used toileting, fluid manipulation, social, daily routine, hygiene and body care strategies to manage and maintain social continence. Of concern were

the restrictions on multiple aspects of their lives, particularly when out socially. Knowledge of these strategies and the difference between older and working-aged women will enable health professionals to initiate more targeted support and advice for women with UI.

Keywords:

urinary incontinence, continence, women, self-management, Australia, community

Introduction

In Australia, more than 4 million people living in the community experience urinary incontinence; approximately 80% of these persons are women¹. These data are consistent with prevalence rates reported in other countries. Although UI can be alleviated or improved with treatment, many still must live with UI and manage its consequences in their daily lives.

The experience of losing bladder control breaks fundamental social taboos, often leading to feelings of embarrassment and shame.²⁻³ Evidence reveals that UI exerts a negative impact on multiple components of health related quality of life, including working life,⁴⁻¹⁰ emotional and social life,¹¹⁻¹² finances,¹⁴⁻¹⁵ sexual life,¹²⁻¹⁶⁻¹⁸ and self-esteem.¹⁹⁻²⁰ Little research, however, has investigated the way in which women manage the distressing symptoms associated with UI²¹ and how self-management strategies vary, depending on work and lifestyle commitments.

Understanding the strategies women employ to manage UI in their daily lives will enhance the health professional's role in providing tailored advice. The aim of this descriptive study was to examine strategies used by older and working-aged community-dwelling women to manage the impact of UI in their daily lives.

Methods

This study was part of a larger mixed-methods study investigating self-management strategies of community-dwelling people with UI. A cross-sectional survey design was used to capture the ways in which women manage UI in their day-to-day lives. For the purposes of this study, women were grouped as older (> 65 years of age) or working-aged (18 - 65 years of age), because women in these age groups may have different lifestyle and daily living issues. Ethics approval for the study was gained from the University and participating health care agencies. Participants were recruited from South-East Queensland and Northern New South Wales, Australia. Health professionals from public and privately-funded continence clinics assisted recruitment. Participants were also recruited via advertisements run in local community newspapers over a period of 4 weeks. Inclusion criteria included ≥ 18 years of age; UI for more than 6 months; living independently in the community (i.e. not dependent on a carer for toileting); and English-speaking. People with cognitive impairment and those living in residential care were excluded, because they were less likely to be autonomous in developing self-management strategies. Clinical staff of continence clinics identified potential participants, explained the study and gained consent for participation. Participants recruited via the print media contacted the university directly. Selection criteria was clarified and an explanation of

the project provided. All participants were then posted an information sheet, questionnaire, consent form and reply paid envelope for return of the questionnaire. Follow-up letters were sent if surveys were not returned within four weeks, and were again followed up via telephone at six weeks.

Instrument

A search of the literature revealed that, although multiple instruments measure the impact of UI, few were identified that focus on how people managed UI in their daily lives.²² Furthermore, none were designed to enable clarification or deeper analysis of the types of daily-living strategies used. Consequently, we developed a questionnaire to gather descriptive data on the specific strategies used to manage UI in everyday living. In total, the questionnaire consisted of 93 items and took approximately 15 minutes to complete. Section A (26 items) sought information about UI type (stress, urge, or mixed UI) and perceived severity of UI (mild, moderate, severe) using Coyne and associates' classification criteria²³ and the Incontinence Severity Index²⁴ respectively. Section B asked about a range of functional strategies potentially used to manage UI on a daily basis. These items were based on a comprehensive review of the research literature.²¹ Sixty-one items with Likert-type responses of 'never/rarely', 'sometimes' and 'often' were listed under functional headings: Fluids, Toileting, Pads and aids, Social strategies, Daily routines, Hygiene and body care, and Physical activity and exercise. Questions related to demographic characteristics and normal physical activity were included in Section C. The questionnaire was reviewed by a statistician and two continence nurse specialists, and piloted with nine women living with UI who completed the questionnaire and an accompanying evaluation form. The questionnaire was revised to make it shorter and simpler, and again piloted with an additional three people living with UI.

Data Analysis

Data were entered into SPSS version 12.0.1 (Statistical Package for Social Sciences Chicago IL, USA). Descriptive statistics were generated to provide an overview of the demographic and clinical characteristics of the sample. Scores were calculated to determine severity and type of UI. Percentages were used to describe the most common strategies used to manage UI; use of a particular strategy was based on a response for using that strategy at least 'sometimes' or 'often'. Chi-square analysis was used to compare differences between older and working-aged women when the outcome variable was categorical, and the t-test was used when the outcome variable was continuous. Statistical significance was determined by a p-value less than or equal to 0.05. Strategies within each functional category were then ranked from most popular to least popular according to, first, older women and then working-aged women.

Results

One hundred and three older and 104 working-aged women living with UI completed the survey. One-hundred and sixty-seven (109 older; 58 working-aged) women were recruited from clinical environments and of these 60% returned a completed survey. One-hundred and fifty-eight (66 older; 92 working-aged) women were recruited directly from the community and of these 68% returned a completed survey. Women recruited via clinical environments were screened for selection criteria by clinicians. The few women recruited from the community who were ineligible to participate were excluded because they experienced UI for less than six months or urgency without incontinence.

Participants' demographic and clinical characteristics are presented in Table 1. The older women were aged between 66 and 94 years (74.6 ± 6.5 years; mean \pm SD). The age range of the working-aged women was between 30 and 65 years (Mean 50.3 ± 8.9 years). The two groups differed significantly on all demographic and continence characteristics except duration of UI. In addition, more working-aged women had completed education beyond high school (12 years of education), more were currently engaged in paid employment, and more lived with their partner. Almost all the older women were retired or described home duties as their primary occupation. Although both groups' day-to-day activities were predominantly standing and light physical work, more working-aged women identified 'sitting' or 'moderate-heavy physical work' as their main level of activity when compared with the older women.

Women from both groups reported experiencing UI an average of 5 years. The range of UI was 6 months to 65 years among older women, and 6 months to 55 years among the working-aged women. Although the duration of UI did not differ significantly between the age groups, chi-square analysis revealed a significant difference in type ($X^2 = 16.70, p = 0.001$) and severity of UI ($X^2 = 9.773, p = 0.008$) between the groups. More working-aged women experienced stress incontinence (older 13%; working-aged 37%), whereas more older women experienced mixed (older 51%; working-aged 38%) and urge incontinence (older 35%; working-aged 23%). Most women rated their UI as either moderate or severe, however, more working-aged women rated their UI as moderate (older 37%; working-aged 55%) and more older women rated their UI as severe (older 43%; working-aged 23%).

Fluids, toileting, pads and aids

Strategies used to manage UI in daily living related to fluids, toileting, pads and aids are outlined in Table 2. Both groups of women commonly avoided or reduced fluids, particularly when out of the house. Older women were significantly more likely to stop drinking fluids in the evening than the working-aged women (older 64%; working-aged 43%; $X^2 = 9.083$, $p = 0.003$).

Respondents indicated that toileting strategies were directed at keeping the bladder empty, for example, approximately 92% of women indicated going to the toilet as an immediate response to urge. Furthermore, over half the women from both groups attempted to keep their bladders empty when away from home, and scheduled regular toilet breaks to aid in this goal. About half of the women from both groups reported remaining vigilant about toilet access; including staying close to toilets when in a familiar location and scanning to locate a toilet in unfamiliar places. When compared with working-aged women, significantly more older women got up at night to urinate (older 95%, working-aged 78%; $X^2 = 11.985$, $p = 0.001$), and ensured their bedroom was close to a toilet (older 61%, working-aged 36%; $X^2 = 12.153$, $p < 0.001$).

Pad use was a common strategy for women in both age groups; however, more older women used pads or incontinence aids (older 87%, working-aged 73%; $X^2 = 6.506$, $p = 0.011$) and were selective in their choices to enhance protection (older 83%, working-aged 69%; $X^2 = 5.306$, $p = 0.021$), than in the working-aged group. Respondents indicated that planning was important. More than half of the women in both groups reported using pads/aids for specific activities and more than 31% selected different pads or aids depending on whether they were at home or away from home.

Social Strategies

Social strategies and routines used to manage UI in daily living are outlined in Table 3. Both groups of women prioritized seeking knowledge and support from professionals and lay people and adopted social strategies aimed at normalising the management of UI in day-to-day life. While some used positive thinking and humour, UI was perceived as a private affair. Many women kept accidents a secret (63-72%) and did not discuss their condition with (53%) or seek help from close friends and family (70% - 76%).

Two-thirds of the women (66% - 71%) adopted precautionary routines to reduce the chance of leaking in public. Over half of the women (51% - 53%) took an extra change of clothes or underwear when they were out, and some changed the timing and type of their medications if they were going

out. Many women also took extra pads/aids with them wherever they went, with significantly more older women doing this than working-aged women (older 78%, working-aged 61%; $X^2 = 6.779$, $p=0.009$).

Many women avoided situations as a response to UI, with 52% - 60% of both groups limiting situations where access to a toilet was difficult and where they were more likely to leak. Some women chose to stay at home as a strategy for managing incontinence, with significantly more older women choosing this strategy than working-aged women (older 39%, 25% working-aged; $X^2 = 4.456$, $p = 0.035$). While women in both groups limited travel, socialising and new relationships, these strategies were used significantly less by working-aged women. For example, 45% of older women limited business and leisure travel compared to 18% of women in the working-aged group ($X^2 = 17.001$, $p < 0.001$).

Hygiene and Physical Activity

Hygiene, body care, cleaning, physical activity and exercise strategies used to manage UI in daily living are outlined in Table 4. Both groups of women ranked 'Make sure your bowels stay regular' as the most common strategy. Other strategies used included having more showers than usual, using emollient creams and skin wipes, wearing clothes that are more likely to conceal accidents and losing weight. Older women were significantly more likely to use strategies that emphasised body and home care when compared with working-aged women including to manage odour and hygiene, for example, washing clothing and bedding regularly (older 86%, working-aged 60%; $X^2 = 17.473$, $p<0.001$) and to clean and protect clothing and furnishings, for example, purchasing clothes that are easy to wash (older 64%, working-aged 40%, $X^2 = 12.135$, $p<0.001$). Similarly, more older women than working-aged women modified their diet as a self-management strategy (older 66%, working-aged 48%; $X^2 = 6.320$, $p = 0.012$).

The most commonly used physical activity strategy for both groups of women was restriction of activities thought to trigger UI episodes (83-85%). However, despite restricting activities, 44% to 45% of respondents modified activities and 44% to 51% selected activities for times they were more likely to be continent. In addition, 44% to 51% pre-emptively tightened the pelvic floor muscles when UI was anticipated. More working-aged women modified sexual activity, including using different positions for sex (older 17%, working-aged 70%; $X^2 = 53.629$, $p<0.001$) and avoiding intercourse or orgasm (older 8%, working-aged 32%; $X^2 = 17.634$, $p<0.001$).

Discussion

The retention rate in this study was relatively high, with a total of 66% of women recruited to the study returning a completed survey, reducing the risk of non-response bias. According to Polit and Beck⁴⁶ a response rate greater than 65% is satisfactory for most studies; indeed a response rate of 50% or lower is not uncommon for postal surveys. The high response rate is possibly attributable to the purposive sampling strategy, which targeted both people living with UI who were willing to contact the project officer in order to be recruited to the study and clients of continence clinics. Personal contact preceding recruitment, either by telephone or face-to-face in the clinical setting, is likely to increase questionnaire completion compliance.⁴⁶

Our results showed that the women used a suite of strategies to manage UI in their daily lives. Making 'managing a normal part of everyday life' was one of the highest ranked strategies for both groups suggesting that, overall, women plan and modify elements of their daily lives to manage UI. Strategies likely to promote normalisation were equally valued by older and working aged women, including seeking help and knowledge, maintaining secrecy and using humour.

Absorptive pads were a predominant approach to managing UI in our sample. This finding is consistent with results of other studies.^{25-27 28 29 30 31 32} We also found that both older and working-aged women selected certain types of pads, based on considerations of anticipated activities and the social situation. Our respondents also reported using multiple other strategies to cope with UI, including restriction of activities to prevent UI, keeping UI a secret, body vigilance and personal care.

The older and working-aged women in this study differed on a number of lifestyle and continence characteristics, including: work, living arrangements, UI severity, UI type, and many of the strategies used to manage UI. Only a third of the 61 strategy items in the questionnaire were adopted by a similar proportion of both older and working-aged women. The older women tended to use more strategies to manage their UI, including greater restriction of activities. In contrast, only 2 of the 61 strategies were used by significantly more working-aged women, and these related to sexuality. Older women were more likely to engage in strategies that involved pre-planning, particularly those related to routines, physical activity and socializing. These differences may be the result of older

women having less flexibility and more stability in their lives, or because working-aged women's lives are more likely to require wider considerations such as work and caring for family.

Attempting to maintain a relatively empty bladder was a major focus for managing UI in daily life including toileting, fluid restrictions and routines, particularly when out socially. These findings confirm previous research that suggested that people will modify behaviour,³³ manipulate fluid intake,^{24 25 26 33} and change toileting patterns^{25 34} by frequent, scheduled or regular urination^{33 26 27 35-41} in order to achieve “dysfunctional continence.” While manipulating and restricting fluids to keep the bladder empty may assist in maintaining social continence, it runs counter to advice on good bladder habits.

Of concern was the proportion of women from both groups who restricted multiple aspects of their lives, especially particularly when out socially. The high proportion of women from both groups who stopped activities that make them leak suggests that UI has a major impact on physical activity, which is consistent with findings from previous research.²⁷ Although reduction of fluids was by no means universal in our sample, more than 50% of women in both groups reduced fluid intake. More older women tended to adopt fluid reduction strategies than working-aged women, except for modifications related to alcohol intake. While reducing alcohol and caffeine may be protective for women with UI, restrictions on fluid intake over time may have negative health impacts. While most of the women in both groups aimed to make managing UI a part of their lives, it was concerning that many of the older women limited travel, avoided new relationships or simply stayed at home. Indeed, they were significantly more likely to choose these restricted social strategies than the working-aged women. Thus the contribution of UI to social isolation should be considered by clinicians, particularly for older women.

Toilet vigilance and routines became part of everyday life for many women from both groups, which involved using strategies from all functional categories. Most of the respondents in our study scanned for toilets, stayed near toilets and avoided places with no toilets. The women developed routines and activities that were less likely to cause leaking, in particular scheduling regular toilet breaks and organising their day. Routines and being prepared for an accident have been identified in previous research;⁴²⁻⁴⁴ however, it was of interest that our results showed that this was not universal. Health professionals should be aware that some participants changed the timing and type of medications before going out socially to reduce the chance of UI.

Personal hygiene practices, such as cleaning and managing odor was a priority for our participants. Regular washing and pad changes, deodorisers and appropriate clothing were common strategies reported by both working-aged and older women groups. However, older women were more likely than working-aged women to use a wider range of hygiene and cleaning strategies, including protecting bedding, furnishings and the home environment. Use of hygiene routines to conceal incontinence is consistent with previous research that identified concealment, constant awareness and body vigilance as common responses to UI.^{35 36 38 43} However, our study showed that strategies related to public exposure of UI were more commonly used strategies than those related to private care matters.

Consistent with the literature, respondents in our study kept UI a secret and the majority dealt with it alone. It was clear that the women were more likely to seek help from a health professional than from their friends or even their family. However, research suggests that, apart from continence specialists, generalist health professionals may lack knowledge and confidence about continence care, leaving patients disappointed in care provided.⁴⁵ Although assistance with the activities of daily-living is a nursing role, it is arguable that many generalist nurses could have limited knowledge about how to advise on managing UI in everyday life.

Implications for practice

The results of this study support the need for continence clinicians to consider each woman's individual circumstances, and the strategies they are currently using to manage UI in their everyday lives. Identifying women's personal circumstances, goals and strategies for social continence, and reviewing their currently used strategies could enable education, discussion and individually tailored advice of a wider range of strategies that would assist more effective daily-living management of UI. Health care professionals caring for women with UI should develop a trusting relationship in which patients feel comfortable discussing current strategies that may adversely impact on health, such as toileting behaviours, fluid restrictions and manipulation of medications. Furthermore, opening up discussion about daily living strategies may generate patient teaching opportunities and discussion of new strategies, such as garnering support from close family and friends, developing plans and routines, managing toileting and fluids more effectively, and personal issues.

The results of this study also suggests that there is a need to explore how working-aged women manage UI to take account of the demands of their lives and any restricting strategies they may be

adopting, particularly social restrictions. Older women may use more strategies to manage their UI, but many benefit from advice on strategies that could give them greater flexibility.

Limitations

A convenience sample was used for this study. Furthermore, it was not possible to calculate a participation rate, although once participants were recruited into the study, the retention rate was good. Participants included people who had lived with UI for substantial periods of time, and who may or may not have accessed specialist continence health services. The older and working-aged groups were from diverse backgrounds, with a range of ages, socioeconomic profiles and clinical presentations for UI, including severity. Thus, caution must be exercised if generalizing these results to the general population for older and working-aged women.

Conclusion

In addition to using pads and aids, older and working-aged women used a range of other toileting, fluid manipulation, social behaviour, daily routine, hygiene and body care strategies to manage UI. Older women used more strategies than working-aged women. These findings suggest the need for health professionals to individually tailor discussion and advice to take account of women's social realities, to enable choice and flexibility and to promote quality of life. There is also a need to discuss the health implications of strategies such as restricting fluids, socialization and physical activity, and the implications of striving to keep the bladder empty.

Key Points

- Older and working-aged women aim to normalise urinary incontinence in their daily lives. Although pads and aids are a major strategy, they also use many other toileting, fluid manipulation, social, daily routine, hygiene and body care strategies to manage and maintain social continence.
- Older women use more strategies to manage urinary incontinence in their daily lives than working-aged women.
- Predominantly used strategies for managing urinary incontinence in daily living are aimed at keeping the bladder empty, maintaining secrecy and preserving social continence.
- Many women restrict fluids, physical activities, socialisation and travel to manage urinary incontinence in their daily lives.

References

1. Deloitte Access Economics, Continece Foundation Australia. The economic impact of incontinence in Australia. Melbourne: Australian Continece Foundation, 2011.
2. Garcia JA, Crocker J, Wyman JF, Krissovich M. Breaking the cycle of stigmatization: Managing the stigma of incontinence in social interactions. *WOCN* 2005;32(1):38-52.
3. Yuan HB, Williams BA, Liu M. Attitudes Toward Urinary Incontinence Among Community Nurses and Community-Dwelling Older People. *WOCN* 2011;38(2):184-89.
4. Fitzgerald S, Palmer M, Kirkland V, Robinson L. The impact of urinary incontinence in working women: A study in a production facility. *Women & Health* 2002;35(1):1-16.
5. Fitzgerald S, Palmer MH, Berry SJ, Hart K. Urinary incontinence impact on working women. *AAOHN* 2000;48(3):112-18.
6. Palmer MH, Fitzgerald S, Berry SJ, Hart K. Urinary incontinence in working women: an exploratory study. *Women & Health* 1999;29(3):67-82.
7. Nygaard I, Linder M. Thirst at work--an occupational hazard? *Int Urogynecol J Pelvic Floor Dysfunct* 1997;8(6):340-3.
8. Davis G, Sherman R, Wong MF, McClure G, Perez R, Hibbert M. Urinary incontinence among female soldiers. *Military Medicine*. 1999;164(3):182-7.
9. Coyne KS, Sexton CC, Kopp ZS, Ebel-Bitoun C, Milsom I, Chapple C. The impact of overactive bladder on mental health, work productivity and health-related quality of life in the UK and Sweden: results from EpiLUTS. *BJU International* 2011;108(9):1459-71.
10. Higa R, Lopes MH. The impact of urinary incontinence on female nursing personnel. *Rev Bras Enferm* 2007;60(2):213-6.
11. Fultz N, Herzog A. Self-reported social and emotional impact of urinary incontinence. *Journal of American Geriatric Society* 2001;49:892- 99.
12. Hermansen IL, O'Connell BO. Women's explanations for urinary incontinence: Their management strategies and their quality of life during the postpartum period. *WOCN* 2010;37(2):187-92.
13. Milne JL, Moore KN. Factors impacting self-care for urinary incontinence. *Urologic Nursing* 2006;26(1):41-52.
14. Miner PB, Jr. Economic and personal impact of fecal and urinary incontinence. *Gastroenterology* 2004;126(1 Suppl 1):S8-13.
15. Irwin DE, Mungapen L, Milsom I, Kopp Z, Reeves P, Kelleher C. The economic impact of overactive bladder syndrome in six Western countries. *BJU International* 2009;103(2):202-09.
16. Yip SK, Chan A, Pang S, Leung P, Tang C, Shek D, et al. The impact of urodynamic stress incontinence and detrusor overactivity on marital relationship and sexual function. *Am J Obstet Gynecol* 2003;188(5):1244-8.
17. Shaw C. A systematic review of the literature on the prevalence of sexual impairment in women with urinary incontinence and the prevalence of urinary leakage during sexual activity. *Eur Urol* 2002;42(5):432-40.
18. Nilsson M, Lalos O, Lindkvist H, Lalos ANN. How do urinary incontinence and urgency affect women's sexual life? *Acta Obstetrica et Gynecologica Scandinavica* 2011;90(6):621-28.
19. Steeman E, Defever M. Urinary incontinence among elderly persons who live at home. *Nursing Clinics of North America* 1998;33(3):441-53.
20. Umlauf MG, Goode S, Burgio KL. Psychosocial issues in geriatric urology: problems in treatment and treatment seeking. *Urol Clin North Am* 1996;23(1):127-36.
21. St John W, Wallis M, Griffiths S, McKenzie S. Daily-living management of urinary incontinence: A synthesis of the literature. *WOCN* 2010;37(1):80-90.
22. Talbot LA. Coping with urinary incontinence: Development and testing of a scale. *Nursing Diagnosis* 1994;5(3):127-32.

23. Coyne KS, Zhou Z, Thompson C, Versi E. The impact on health-related quality of life of stress, urge and mixed urinary incontinence. *BJU Int* 2003;92(7):731-35.
24. Sandvik H, Hunskaar S, Seim A, Hermstad R, Vanvik A, Bratt H. Validation of a severity index in female urinary incontinence and its implementation in an epidemiological survey. *J Epidemiol Community Health* 1993;47(6):497-99.
25. Herzog AR, Fultz NH, Normolle DP, Brock BM, Diokno AC. Methods used to manage urinary incontinence by older adults in the community. *J Am Geriatr Soc* 1989;37(4):339-47.
26. Engberg SJ, McDowell BJ, Burgio KL, Watson JE, Belle S. Self-care behaviors of older women with urinary incontinence. *Journal of Gerontological Nursing*. 1995;21(8):7-14.
27. Brown WJ, Miller YD. Too wet to exercise? Leaking urine as a barrier to physical activity in women. *J Sci Med Sport* 2001;4(4):373-8.
28. Locher JL, Burgio KL, Goode PS, Roth DL, Rodriguez E. Effects of age and causal attribution to aging on health-related behaviors associated with urinary incontinence in older women. *Gerontologist* 2002;42(4):515-21.
29. Hagglund D, Walker-Engstrom ML, Larsson G, Leppert J. Reasons why women with long-term urinary incontinence do not seek professional help: a cross-sectional population-based cohort study. *Int Urogynecol J Pelvic Floor Dysfunct* 2003;14(5):296-304; discussion 04.
30. Johnson TM, 2nd, Bernard SL, Kincade JE, Defriese GH. Urinary incontinence and risk of death among community-living elderly people: results from the National Survey on Self-Care and Aging. *J Aging Health* 2000;12(1):25-46.
31. Dunn S, Kowanko I, Paterson J, Pretty L. Systematic review of the effectiveness of urinary continence products. *WOCN* 2002;29(3):129-42.
32. Adams C, Lorish C, Cushing C, Willis E, Jackson J, Walter J. Anatomical urinary stress incontinence in women with rheumatoid arthritis: its frequency and coping strategies. *Arthritis Care Res* 1994;7(2):97-103.
33. Miller YD, Brown WJ, Smith N, Chiarelli P. Managing urinary incontinence across the lifespan. *Int J Behav Med* 2003;10(2):143-61.
34. Eastwood S, Kralik D, Koch T. Compromising and containing: self-management strategies used by men and women who live with multiple sclerosis and urinary incontinence. *Aust J Holist Nurs* 2002;9(1):33-43.
35. Mitteness LS. The management of urinary incontinence by community-living elderly. *Gerontologist* 1987;27(2):185-93.
36. Thomas AM, Morse JM. Managing urinary incontinence with self-care practices. *J Gerontol Nurs* 1991;17(6):9-14.
37. Sandvik H, Kveine E, Hunskaar S. Female urinary incontinence--psychosocial impact, self care, and consultations. *Scand J Caring Sci* 1993;7(1):53-6.
38. Ashworth PD, Hagan MT. The meaning of incontinence: a qualitative study of non-geriatric urinary incontinence sufferers. *J Adv Nurs* 1993;18(9):1415-23.
39. Skoner MM. Self-management of urinary incontinence among women 31 to 50 years of age. *Rehabil Nurs* 1994;19(6):339-43, 47.
40. Talbot LA, Cox M. Differences in coping strategies among community-residing older adults with functional urinary continence, dysfunctional urinary continence and actual urinary incontinence. *Ostomy Wound Manage* 1995;41(10):30-2, 34-7.
41. Palmer MH, Fitzgerald S. Urinary incontinence in working women: a comparison study. *J Womens Health (Larchmt)* 2002;11(10):879-88.
42. Brocklehurst JC. Urinary incontinence in the community--analysis of a MORI poll. *Bmj* 1993;306(6881):832-4.
43. Peake S, Manderson L. The Constraints of a Normal Life: The Management of Urinary Incontinence by Middle Aged Women. *Women & Health* 2003;37(3):37-51.

44. Hayder D, Schnepf W. Experiencing and Managing Urinary Incontinence: A Qualitative Study. *Western Journal of Nursing Research* 2010;32(4):480-96.
45. St John W, James H, McKenzie S. "Oh, that's a bit of a nuisance": community-dwelling clients' perspectives of urinary continence health service provision. *WOCN* 2002;29(6):312-9.
46. Polit DF, Beck CT. Collecting self-report data. In: Polit DF, editor. *Nursing research: Principles and methods* 7th ed. Philadelphia: Lippincott Williams & Wilkins, 2004.

Table 1: Demographic and continence characteristics of participants by age group

<i>Characteristics</i>	Older women >65 years N=103	Working-aged women ≤ 65 years N=104	χ^2; p value^a
Demographic Characteristics			
Age (years)			
Mean (SD)	74.9(6.6)	50.6(8.9)	N/A
Highest level of education n(%)			
Less than year 12	56(55.4)	40(39.2)	10.5; 0.033
Year 12	19(18.8)	16(15.7)	
TAFE/Trade	12(11.9)	24(23.5)	
University degree	7(6.9)	16(15.7)	
Other	7(6.9)	6(5.9)	
Living arrangements n(%)			
Lives with family	52(51.5)	81(80.2)	13.7; < 0.001
Lives alone	49(48.5)	20(19.8)	
Occupation n(%)			
Not in paid employment	95(97.0)	47(48.4)	60.2; < 0.001
Non-professional	3(3.0)	32(33.0)	
Professional	0(0.0)	18(18.6)	
Level of physical activity day to day (n %)			
Sitting	16(19.8)	32(33.7)	9.7; 0.008
Standing – light physical work	62(76.5)	52(54.7)	
Moderate – heavy physical work	3(3.7)	11(11.6)	
Continence Characteristics			
Severity of incontinence n(%)			
Slight	20(19.6)	22(21.4)	9.8; 0.008
Moderate	38(37.3)	57(55.3)	
Severe	44(43.1)	24(23.3)	
Type of incontinence n(%)			
Stress	13(12.6)	38(36.5)	16.7; 0.001
Urge	36(35.0)	24(23.1)	
Mixed	52(50.5)	39(37.5)	
Incomplete emptying	2(1.9)	3(2.9)	
Duration of UI (years)^c			
Median (Inter-Quartile Range [IQR])	5(7.9)	5(7.0)	NS

a: χ^2 and p value only reported when < 0.05

b: n may vary due to incomplete data for some questions

c: Median and IQR, due to a skewed distribution

Table 2: Ranked daily-living strategies for managing urinary incontinence (by group): Fluids, toileting and pads

Type of Daily-Living Strategy	Older Women >65 years N=103		Working-Aged Women ≤ 65 years N=104		χ^2 ; <i>p</i> value ^b
	Rank	<i>n</i> (%) ^a	Rank	<i>n</i> (%) ^a	
Fluids					
Stop drinking fluids at a particular time in the evening	1	65(63.7)	3	44(42.7)	9.1; 0.003
Reduce fluid intake	2	58(57.4)	1	52(51.5)	
Avoid fluids when you are out	3	58(56.3)	2	50(48.5)	
Avoid/eliminate caffeinated drinks	4	53(53.5)	5	42(41.2)	
Reduce alcohol intake	5	33(33.7)	4	43(42.6)	
Avoid alcohol when you are out	6	31(32.0)	6	41(40.2)	
Toileting					
Go to the toilet as soon as you get the urge	1	95(94.1)	1	93(92.1)	
Get up at night to urinate	2	94(94.9)	2	79(78.2)	12.0; 0.001
Locate toilet on arrival at an unfamiliar place	3	79(78.2)	3	67(66.3)	
Organise your bedroom close to the toilet	4	59(60.8)	8	36(36.0)	12.2; <0.001
Schedule regular toilet breaks	5	58(59.8)	5	51(51.5)	
Stay close to a toilet	6	53(56.4)	6	47(47.0)	
Keep your bladder empty when you are out	7	50(52.6)	4	54(55.1)	
Know where all the toilets are before you go out	8	45(45.5)	7	42(41.2)	
Plan outings which are close to toilets	9	43(43.4)	9	34(33.7)	
Make excuses about frequent toilet visits	10	26(26.8)	10	24(23.8)	
Pads and Aids					
Use protective pads / aids	1	88(87.1)	1	75(72.8)	6.5; 0.011
Choose pads or devices that will absorb the amount you leak	2	82(82.8)	2	71(68.9)	5.3; 0.021
Use protective pads / aids for specific activities	3	56(57.7)	3	53(53.5)	
Use different aids/devices for when you are at home and when you are out	4	38(39.2)	4	31(30.7)	

a: *n* may vary due to incomplete data for some questions

b: *p* value only reported when < 0.05

Table 3: Ranked daily-living strategies for managing urinary incontinence (by group): Social and routines

Type of Daily-Living Strategy	Older Women >65 years N=103		Working-Aged Women ≤ 65 years N=104		X ² ; p value ^b
	Rank	n(%) ^a	Rank	n(%) ^a	
Social					
Learn as much as you can about urinary incontinence	1	86(87.8)	2	77(77.8)	
Make managing leaking a normal part of everyday life	2	79(81.4)	1	78(78.0)	
Seek help from a health professional	3	73(74.5)	3	70(70.0)	
Keep accidents a secret from close friends and family	4	70(72.2)	4	63(63.0)	
Use humour or positive thinking if an accident happens	5	48(51.6)	5	48(49.5)	
Discuss your condition with close family and/or friends so that they understand about accidents	6	46(47.4)	6	47(47.0)	
Limit business and leisure travel	7	44(44.9)	8	18(17.8)	17.0; <0.001
Avoid socialising, except with close family and friends	8	30(29.7)	9	11(10.9)	11.0; 0.001
Get help from close family and /or friends	9	29(30.2)	7	24(24.0)	
Avoid new relationships	10	24(25.0)	9	11(10.9)	6.7 0.01
Routines					
Take spare pads/aids with you wherever you go	1	78(78.0)	2	63(61.2)	6.8; 0.009
Develop a routine to reduce the chance of leaking in public	2	68(70.8)	1	67(65.7)	
Avoid situations where you can't get to a toilet easily	3	59(59.6)	3	53(52.5)	
Take an extra change of clothes and/or underwear when you go out	4	54(52.9)	5	51(50.5)	
Avoid situations where you are likely to leak	5	53(54.6)	4	53(51.5)	
Stay home when you are more likely to leak eg. if sick or the weather is cold	6	38(39.2)	6	26(25.2)	4.5; 0.035
Stay at home	7	35(35.4)	7	24(23.8)	
Change the timing or type of medication you take before you go out	8	18(18.2)	8	12(12.0)	

a: n may vary due to incomplete data for some questions

b: X² and p value only reported when < 0.05

Table 4: Ranked daily-living strategies for managing urinary incontinence (by group): Hygiene, body care, cleaning, physical activity and exercise

Type of Daily-Living Strategy	Older Women >65 years N=103		Working-Aged Women ≤ 65 years N=104		X ² ; p value ^b
	Rank	n(%) ^a	Rank	n(%) ^a	
Hygiene, body care and cleaning					
Make sure your bowels stay regular	1	88(91.7)	1	84(84.0)	
Wash clothes and bedding regularly, whether soiled or not	2	87(86.1)	2	60(60.0)	17.5; <0.001
Change pads frequently to avoid the smell of urine	3	75(75.8)	3	60(58.3)	7.0; 0.008
Use deodorisers/perfume	4	66(68.0)	6	50(49.5)	7.0; 0.008
Modify your diet	5	65(65.7)	7	48(48.0)	6.3; 0.012
Purchase clothes and underwear that are easy to wash	6	63(64.3)	8	40(39.6)	12.1; <0.001
Carry a special bag for disposal of pads	7	51(51.0)	11	28(28.0)	11.1; 0.001
Use creams to protect your skin	8	49(51.0)	9	38(37.6)	
Have more showers than usual	9	49(49.5)	4	55(54.5)	
Wear clothes that conceal accidents eg. dark coloured, patterned, skirts	10	49(49.5)	5	54(52.9)	
Lose weight	11	38(44.2)	10	37(38.5)	
Make sure your home's floor coverings are easy to clean	12	36(38.7)	13	16(15.8)	12.9; <0.001
Using protective aids for bedding	13	32(32.7)	15	14(13.6)	10.3; 0.001
Protect soft furnishings at home	14	28(28.6)	14	15(14.9)	5.5; 0.019
Use skin wipes	15	26(27.4)	12	21(20.8)	

Physical Activity & Exercise

Stop doing activities that make you leak eg. jogging, dancing, standing for long periods	1	80(85.1)	1	85(83.3)	
Plan activities for when you are less likely to lose control eg. after passing urine, when rested	2	41(44.0)	3	51(51.0)	
Modify the activities you engage in eg. walking instead of jogging	3	42(43.8)	4	46(45.1)	
Tighten your pelvic floor muscles if you are in danger of leaking eg. coughing, sneezing, lifting	4	39(42.4)	5	43(42.2)	
Urinate before and/or after sex	5	36(38.3)	6	41(40.6)	
Use different positions for sex	6	16(17.4)	2	70(70.0)	53.6; <0.001
Do pelvic floor exercises before particular occasions	7	10(10.6)	8	18(17.8)	
Avoid having sexual intercourse or orgasm	8	7(7.7)	7	32(32.3)	17.6; <0.001

a: n may vary due to incomplete data for some questions

b: p value only reported when < 0.05